REMARKS

STATUS OF THE CLAIMS

Claims 1-21 are pending in the application.

Claims 1-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Pai et al., "ACME, a Telerobotic Active Measurement Facility" (1999).

Thus, claims 1-21 remain pending for reconsideration, which is respectfully requested.

No new matter has been added.

REJECTION

Claims 1-21 are rejected under 35 USC 102(a) as being anticipated by Pai, "ACME, A Telerobotic Active Measurement Facility," 1999. Pai is newly cited, and, thus, newly relied upon.

Pai discusses an Active Measurement Facility to measure properties of a test object and to combine the measured properties into computational models. In particular, the Active Measurement Facility is an integrated robotic facility designed to acquire measurements from small objects using a Field Measurement System (FMS) and the Contact Manipulation System. Pai, pages 2-3. The Field Measurement System and the Contact Manipulation System comprise robotic actuators and sensor to measure the properties of the test object, such as light (e.g., images), sound, friction, stiffness. Pai, pages 4-6.

In contrast to Pai, the claimed present invention provides, "*a second interface* section *transferring actuator instruction data and sensor data* between *said three-dimensional-mechanism model simulating section* and *said embedded software developing section* while synchronizing said three-dimensional-mechanism model simulating section and said embedded software developing section in operation with each other" (e.g., independent claim 1).

The Office Action relies on Pai's pages 4-6 (Section 3), for allegedly discussing transferring actuator instruction data and sensor data between 3-d mechanism model. However, Pai's Section 3.1 discusses the ACME facility control structure using Java software objects called devices, which are in turn subclassed into Actuators and Sensors. Pai's discussion of Actuators and Sensors refers to software device objects to control corresponding robotic actuators and sensors for collecting property measurements. Pai discusses in page 5, "a motion

can be handed to a simulator for verification or to a server for execution on the actual hardware."

First, Pai's simulator is a "*simulator of ACME*" or a simulator of the facility for measurement (section 3.2), but not the claimed present invention's, "*three dimensional-mechanism model simulating section* ... for *simulating* an operation of the *mechanism*." In other words, ACME does not simulate a "*mechanism*" for which "*embedded software*" is developed by the "*embedded software developing section*," but ACME provides a simulator to simulates itself, for example, the entire Field Measurement System (FMS) apparatus.

Second, Pai fails to disclose or suggest by being silent on the claimed present invention's, "*embedded software developing section* for *developing a control program, which is to be embedded* in the mechanism to *control* the operation of *the mechanism*, as embedded software." The Office Action appears to rely on Pai's page 1, abstract, 3rd paragraph, which discusses "Everything in ACME, from force controlled probing to camera settings and lighting, is under computer control," but fails to disclose or suggest the claimed present invention's, "*developing a control program ... to control ... the mechanism, as embedded software*." In other words, Pai is not directed or related to developing any software programs. In fact, Pai's page 4 discusses, "The design of ACME is directed at acquiring measurements for building models, and not the models themselves," thus teaching away from the claimed present invention. Pai discusses "ACME will provide nominal shape models ... for obstacle avoidance, sensor planning, path planning, etc.," which differ from the claimed present invention's, "*embedded software developing section* for *developing a control program, which is to be embedded in the mechanism to control the operation of the mechanism*."

Third, it is readily apparent that Pai is silent on the claimed present invention's, "*transferring actuator instruction data and sensor data* between said three-dimensional-mechanism model simulating section and said embedded software developing section *while synchronizing said three-dimensional-mechanism model simulating section and said embedded software developing section in operation with each other*." In other words, although Pai might transfer actuator and sensor instructions to an actuator and sensor software objects as a simulator, or to the actual robotic actuator and sensor hardware to perform measurements, Pai fails to disclose, either expressly or inherently, the claimed present invention's, "*while synchronizing* said *three-dimensional-mechanism model simulating* section *and* said *embedded software developing* section in operation *with each other*,"

10

because ACME does not simulate a mechanism to develop embedded control software for controlling the mechanism. Pai fails to disclose or suggest developing embedded software to control ACME, or ACME's robotic actuator and sensor, as suggested by the Examiner. ACME's Java software objects named Actuators and Sensors for teleprogramming are not embedded software for ACME's CMS, TS and FMS shown in FIG. 3. So Pai fails to perform any type of synchronization with "*an embedded software developing section.*"

According to MPEP 2131 guidance, "To anticipate a claim, the reference must teach every element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)." Therefore, Pai cannot anticipate the claimed present invention, because Pai fails to disclose, either expressly or inherently, the claimed present invention's each and every element, as follows:

(1)   Pai's simulator does not refer to a simulator for a mechanism, but refers to a simulator for an entire apparatus, such as an Field Measurement System (FMS);

(2)   Pai is silent about the embedded software of the claimed present invention; and

(3)   Since Pai does not disclose a mechanism or embedded software, Pai does not mention the claimed present invention's interface between the mechanism and the embedded software.

In contrast to Pai, the claimed present invention as recited in independent claims 1, 11, and 21, using claim 1 as an example, provides:

> 1.   (Previously Presented) A support system comprising:
>
> a mechanism designing section for *three-dimensionally designing a mechanism* composed of a plurality of parts including an actuator and a sensor;
>
> a three-dimensional-mechanism model simulating section, in which the mechanism is structured as a three-dimensional-mechanism model, for *simulating an operation of the mechanism*;
>
> an *embedded software developing section* for *developing a control program*, which is *to be embedded in the mechanism to control* the operation of *the mechanism*, as

embedded software;

a *first interface* section for inputting designing data, which is created in said mechanism designing section as the result of the designing by said mechanism designing section, from said mechanism designing section to said three-dimensional-mechanism model simulating section to be reflected on the three-dimensional-mechanism model; and

a *second interface* section *transferring actuator instruction data and sensor data between* said three-dimensional-mechanism model *simulating* section and said *embedded software developing* section *while synchronizing* said three-dimensional-mechanism model *simulating* section and said *embedded software developing* section in operation *with each other*.

In view of the remarks, withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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Date: _December 30, 2005_   By: _____

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